

**AMENDMENT UNDER 37 C.F.R. § 1.111**  
**U.S. Application No. 09/995,677**

a state judging portion for judging whether the O<sub>2</sub>-sensor is in an active state or in an inactive state on the basis of a voltage of the output signal of the O<sub>2</sub>-sensor; and

A1  
Cont'd a fault diagnosis portion for diagnosing whether the O<sub>2</sub>-sensor has any fault on the basis of the voltage of the output signal of the O<sub>2</sub>-sensor under a condition where it is judged that the O<sub>2</sub>-sensor is in the inactive state, wherein fuel is not injected when the O<sub>2</sub>-sensor is in the inactive state.

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5. (Amended) An O<sub>2</sub>-sensor fault diagnosis method comprising the steps of:

judging whether an O<sub>2</sub>-sensor is in an active state or in an inactive state on the basis of a voltage of an output signal of the O<sub>2</sub>-sensor; and

A2 diagnosing whether the O<sub>2</sub>-sensor has any fault on the basis of the voltage of the output signal of the O<sub>2</sub>-sensor under a condition where it is judged that the O<sub>2</sub>-sensor is in the inactive state, wherein fuel is not injected when the O<sub>2</sub>-sensor is in the inactive state.

6. (Amended) The O<sub>2</sub>-sensor fault diagnosis method according to Claim 5, further comprising a step of changing a level of the output signal of the O<sub>2</sub>-sensor by changing an input resistance,

wherein in said diagnosing step, a fault of the O<sub>2</sub>-sensor is identified on the basis of a change in a level of the output signal of the O<sub>2</sub>-sensor.

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7. (Amended) The O<sub>2</sub>-sensor fault diagnosis method according to Claim 5, wherein in said diagnosing step, it is diagnosed whether the O<sub>2</sub>-sensor has any fault each time it is judged in the judging step that the O<sub>2</sub>-sensor is in the inactive state.

A2  
contd

8. (Amended) The O<sub>2</sub>-sensor fault diagnosis method according to Claim 5

further comprising an informing step for sending a notice if the O<sub>2</sub>-sensor is diagnosed to have a fault in said diagnosing step.

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**Please add the following new claims:**

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9. (New) The method according to claim 5, wherein the O<sub>2</sub>-sensor is operable to detect a concentration of oxygen contained in an exhaust gas of an internal combustion engine.

10. (New) The apparatus according to claim 2, wherein said fault diagnosis portion calculates a timing at which the input resistance is changed, and changes the input resistance for a predetermined period of time.

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